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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,312	10/14/2003	Blaine J. Thurgood	2269-5520.1US (02-0676.01)	5043
24247	7590	08/10/2005		EXAMINER
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			CHANG, RICK KILTAE	
			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.	10/685,312	Applicant(s)	THURGOOD, BLAINE J.
Examiner	Rick K. Chang	Art Unit	3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

1) Responsive to communication(s) filed on 09 June 2005.  
2a) This action is FINAL. 2b) This action is non-final.  
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

4) Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) 4-11 is/are withdrawn from consideration.  
5) Claim(s) \_\_\_\_\_ is/are allowed.  
6) Claim(s) 1-3 and 12-14 is/are rejected.  
7) Claim(s) \_\_\_\_\_ is/are objected to.  
8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

9) The specification is objected to by the Examiner.  
10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

1) Notice of References Cited (PTO-892)  
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date of record.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) Notice of Informal Patent Application (PTO-152)  
6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solberg et al (US 6,370,767) in view of AAPA (applicants admitted prior art in Figs. 1-2).

Solberg discloses a planer substrate 12 and a crossbar (see attached annotated Fig. 1 in last office action), except for a dielectric material and the elongated interconnect slot being sized and configured for alignment with bond pads and being accessible through the interconnect slot. The slot length of about 67% or more.

AAPA discloses a dielectric material and the elongated interconnect slot being sized and configured for alignment with bond pads and being accessible through the interconnect slot (Figs. 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Solberg by providing a dielectric material and the elongated interconnect slot being sized and configured for alignment with bond pads and being accessible through the interconnect slot, as taught by AAPA, for the purpose of electrically communication between the first surface of the substrate to the bottom surface of the substrate to another thereon.

Solberg fails to disclose forming the elongated interconnect slot to a length of about 70 to 80% of a length of the substrate. It would have been obvious to one having ordinary skill in the

Art Unit: 3729

art at the time the invention was made to form the elongated interconnect slot to a length of about 70 to 80% of a length of the substrate, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the elongated interconnect slot to a length of about 70 to 80% of a length of the substrate, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Solberg et al (US 6,370,767)/AAPA as applied to claims 1 and 12-14 above, and further in view of Weber (US 5,597,643).

Solberg/AAPA fail to disclose milling.

Weber discloses milling.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Solberg/AAPA by milling, as taught by Weber, for the purpose of removing excess material with a minimum of burrs.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Solberg et al (US 6,370,767)/AAPA/Weber (US 5,597,643) as applied to claims 1, 2 and 12-14 above, and further in view of Parsons (US 3,635,124).

Solberg/AAPA/Weber fail to disclose filled side edges on the crosspiece.

Parsons discloses filled side edges on the crosspiece (39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Solberg/AAPA/Weber by providing filled side edges on the crosspiece, as taught by Parsons, for the purpose of forming weakened portion to easily break the crosspiece.

***Response to Arguments***

5. Applicant's arguments with respect to claims as noted above have been considered but are moot in view of the new ground(s) of rejection.

Examiner thanks the applicant for providing support.

***Interviews After Final***

6. **Applicant note that an interview after a final rejection must be submitted briefly in writing the intended purpose and content of the interview (the agenda of the interview must be in writing). Upon review of the agenda, the Examiner may grant the interview if the examiner is convinced that disposal or clarification for appeal may be accomplished with only nominal further consideration. Interviews merely to restate arguments of record or to discuss new limitations will be denied. See MPEP 714.13 and 713.09.**

***Conclusion***

7. **Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing corresponding reference numerals in the remark section of the response to the Office Action) to all the claimed limitations as well as support in the disclosure for better clarity (optional). Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any**

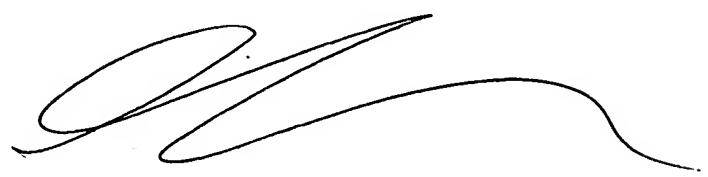
**amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.**

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (571) 272-4564. The examiner can normally be reached on 5:30 AM to 1:30 PM, Monday through Thursday.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.



RICHARD CHANG  
PRIMARY EXAMINER

Application/Control Number: 10/685,312  
Art Unit: 3729

Page 6

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August 8, 2005